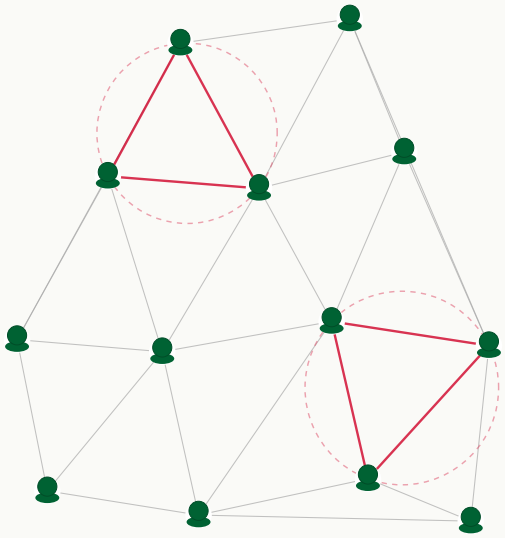

Curriculum Vitae

Djamel Abdelkader Zighed

Professor Emeritus
Université Lumière Lyon 2 — ERIC Research Lab

"Understand in order to share better."

Last updated: 2026-04-30

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Synthetic Profile

Over forty years of research, teaching and scientific leadership at the crossroads of **data engineering** and the **humanities and social sciences**. My work helped shape the French-speaking data mining community (EGC, RNTI, Erasmus Mundus DMKM Master's) and explored **topological** approaches to machine learning — decision and induction graphs, pretopology, sample-size-sensitive entropy measures, neighbourhood-based classification.

I successively directed the **ERIC research lab** at Université Lumière Lyon 2, the **Institute of Human Sciences** (MSH Lyon – Saint-Étienne), and the digital department of the **Agence Universitaire de la Francophonie** (AUF), where I led the IDNEUF initiative for the digital transformation of French-speaking universities. I co-founded *Extraction et Gestion des Connaissances* (EGC — Knowledge Extraction and Management), the *Revue des Nouvelles Technologies de l'Information* (RNTI — Journal of New Information Technologies) and the European Erasmus Mundus Master's in Data Mining.

In recent years my work has gradually shifted towards reflection on the relations between scientific knowledge, reason and public debate, of which the book *La Laïcité dans le débat de la raison* (2026) and the companion site laïciScope are the most recent embodiments.

Keywords

Research — methods: data mining ; machine learning ; topological learning ; induction graphs ; decision trees ; pretopology ; entropy measures ; discretisation ; supervised classification ; neighbourhood graph ; Voronoi diagram ; Delaunay triangulation .

Research — application areas: knowledge discovery ; big data ; artificial intelligence ; infonomics ; digital humanities ; social network analysis ; textual corpus analysis ; semantic similarity .

Leadership & governance: research lab; Maison des Sciences de l'Homme; digital transformation; AUF; IDNEUF ; Erasmus Mundus programmes; scientific publishing.

Commitments: open science; *Francophonie*; multidisciplinarity; mediation between exact sciences and humanities; de-ideologising public debate.

Contents

1. Personal Details and Contact

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2. Education

1985 – 1991 **Habilitation à Diriger les Recherches (HDR — Habilitation to Direct Research)**. Université Claude Bernard Lyon 1, France.

1982 – 1985 **Doctorat Docteur-Ingénieur (PhD)**. Université Claude Bernard Lyon 1 & INSA Lyon, France.

- Title: *Methods and tools for non-arborescent querying processes*.
- Supervisors: M. Terrenoire & D. Tounissoux.
- Topics: generalisation of decision trees into induction graphs; machine learning; explanatory and predictive data analysis.

— See also Section 4 for later developments of this line of work.

1981 – 1982 **Diplôme d'Études Approfondies (DEA — Master of Advanced Studies)**. Computer science and automation, Université Claude Bernard Lyon 1, France.

- Dissertation title: *A methodology for predicting infection risk in severely burned patients*.
- Supervisor: M. Terrenoire.
- Topics: machine learning and pattern recognition applied to medical diagnosis.

1976 – 1981 **Engineering degree in computer science**. Specialism: information systems in organisations. Centre d'Études et de Recherche en Informatique (CERI — Centre for Computer Science Studies and Research), Algiers, Algeria.

3. Career and Positions

3.1 Current positions and roles

- **Professor Emeritus**, Université Lumière Lyon 2, affiliated with the ERIC research lab.
- **Co-founder (2021) and lead designer** of the French-speaking educational platform Parene (PARENE SAS): broad range of educational and scientific content, technopedagogical services and student-records tools — already used by several thousand students across Africa.
- **Co-founder and former President** of the EGC association (Extraction et Gestion des Connaissances — Knowledge Extraction and Management) , the leading French-speaking conference in knowledge, data engineering and AI.
- **Co-founder and Co-Director** of the Revue des Nouvelles Technologies de l'Information (RNTI — Journal of New Information Technologies) , a high-level French-speaking scientific journal.

3.2 Previous positions

2016 – 2020 **Director of Digital Affairs**, Agence Universitaire de la Francophonie (AUF — Agency of Francophone Universities).

- Digital transformation of the agency: modernisation and cloud migration of infrastructures, deployment of an integrated management software suite.
- Led the **IDNEUF** initiative (Initiative pour le Développement du Numérique dans l'Espace Universitaire Francophone — Initiative for Digital Development in the French-speaking Higher Education Area) : supporting member institutions in their use of digital tools to improve the quality of teaching, research and governance.

2011 – 2016 **Director** of the **Institute of Human Sciences** (ISH — Maison des Sciences de l'Homme Lyon / Saint-Étienne). Scientific leadership of more than 3,000 academic staff spread across some twenty CNRS and university research labs in the Lyon / Saint-Étienne area.

2011 – 2016 **Professor** at Université Lumière Lyon 2, affiliated with ICOM (Institute of Communication), the ISH and the ERIC lab.

1991 – 2010 **Professor** at Université Lumière Lyon 2, affiliated with the Faculty of Economic Sciences and Management and the ERIC lab.

1995 – 2005, 2010 – 2011 **Director** of the ERIC lab (Entrepôts, Représentation et Ingénierie des Connaissances — Data Warehouses, Representation and Knowledge Engineering), officially recognised *équipe d'accueil*, jointly run by Lyon 1 and Lyon 2.

1987 – 1991 **Associate Professor (Maître de Conférences)**, Université Lumière Lyon 2, Faculty of Law, associated CNRS — Lyon 1 research unit in applied economics and econometrics.

1984 – 1987 **Associate Lecturer**, Université Claude Bernard Lyon 1, applied mathematics and social sciences (MASS) programme.

3.3 Funded research projects led

2016 – 2017 **3ST** — Semantic Highlighter for Scientific Texts. ERIC & Hubert Curien (UMR CNRS), *ISTEX-CNRS*, €80,000.

2016 – 2019 **Semantic similarity measures**. ERIC & Hubert Curien, Rhône-Alpes Region (ARC 6), approx. €100,000 (PhD scholarship).

2014 – 2015 **IRF** — infonomics resource facility: models and laws of knowledge. ISH & EVS & Hubert Curien, PALSE (Programme Avenir Lyon / Saint-Étienne), €300,000.

2013 – 2015 **Infonomics** — exploration and analysis of semantic content in textual corpora. Université de Lyon (IDEX), €300,000.

2012 – 2014 **Fluresp** — modelling cost-effective responses to flu epidemics in Europe. European project, 13 partners, 8 countries. European Commission (DG SANCO), €700,000.

2012 – 2014 **MONEITHS** — digital worlds, technological experimentation and innovation for human society. Rhône-Alpes Region (ARC6), €15,000.

2011 – 2016 **Erasmus Mundus DMKM Master's** — Data Mining and Knowledge Management. European Commission (Education, Audiovisual and Culture), €4 M over the period (mainly student scholarship funding).

3.4 Institutional service

2014 – 2016 Member of the Board of Directors, Université Lyon 2.

2009 – 2011 Member of the Senior Advisory Council, Université Lyon 2.

2006 – 2008 Member of the Scientific Council, Université Lyon 2.

2004 – 2008 Member of the Steering Committee, Faculty of Economic Sciences and Management.

3.5 Roles in learned societies

EGC *Extraction et Gestion des Connaissances* Association — egc.asso.fr.
Co-founder (2003); Vice-President (2003 – 2006 & 2011 – 2015); President (2007 – 2010).

RNTI RNTI Association — editions-rnti.fr.
Co-founder (2010); President since 2010.

SFC Société Francophone de Classification (French-speaking Classification Society) — sfc-classification.net.
Vice-President (2003 – 2007).

ISI International Statistical Institute — isi-web.org. Elected member (2005 – 2012).

IASC International Association for Statistical Computing — iasc-isi.org. In charge of relations with the machine learning, data mining and knowledge management communities (2005 – 2009); steering committee member of the European Regional Section (2005 – 2015).

4. Research

I began my research activity in 1982. Three main phases stand out.

4.1 1982 – 1993: induction graphs and sample-sensitive entropy

I worked within a joint research unit (URA 934) of Université Lyon 1 and the CNRS, specialising in **econometrics applied to health**. My work focused on the development of methods and tools for **pattern recognition** and **decision support** in social sciences and health.

I introduced a new methodological approach based on **induction graphs** together with the associated software SIPINA[1]. Induction graphs generalise classical decision trees by allowing a lattice (and therefore not necessarily tree-shaped) structure during supervised learning.

To drive the construction of these graphs, I introduced a new **sample-size-sensitive entropy measure**[2]. This work led to numerous publications and was applied in health, social sciences and other application areas.

In parallel, I explored **pretopology** — a mathematical generalisation of topology obtained by weakening the idempotence axiom — which proved particularly useful for modelling and studying relations between objects in terms of **neighbourhoods** rather than **densities**. This entry into pretopology led me to use **geometric graphs** (Voronoi, Delaunay, Gabriel, relative neighbourhood) to structure neighbourhoods in multidimensional spaces — a line of work that continues today.

4.2 1993 – 2010: ERIC and structuring the data mining field

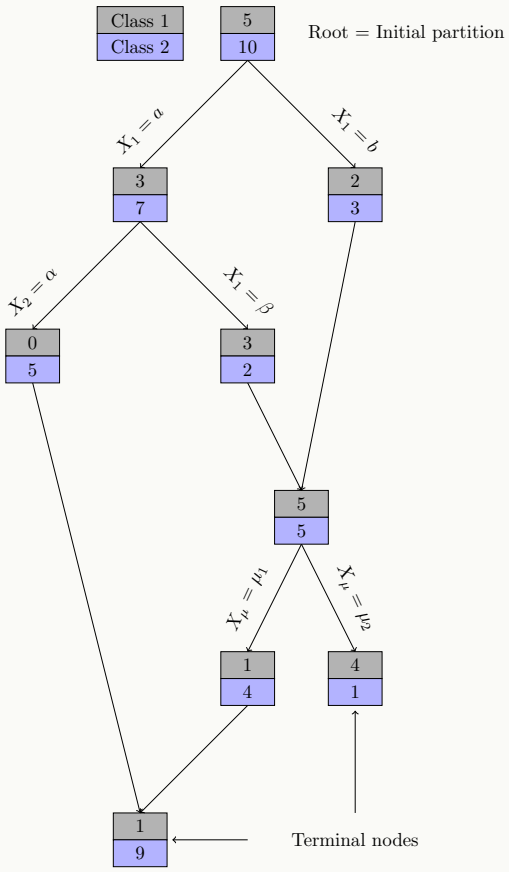
In 1993 I founded the **ERIC research lab** (Équipe de Recherche en Ingénierie des Connaissances — Knowledge Engineering Research Group, renamed in 2012 “Entrepôts, Représentations et Ingénierie des Connaissances” — Data Warehouses, Representation and Knowledge Engineering). The lab’s initial scientific positioning was built around methodologies for **learning** and **knowledge extraction** from large databases. Several topics were developed in continuity with induction graphs and pretopology:

Discretisation and supervised learning Both in induction graphs and in decision trees, the **discretisation** of continuous attributes is essential. I proposed the methods FUSINTER[3] and FISBIN, which delivered higher performance than earlier methods.

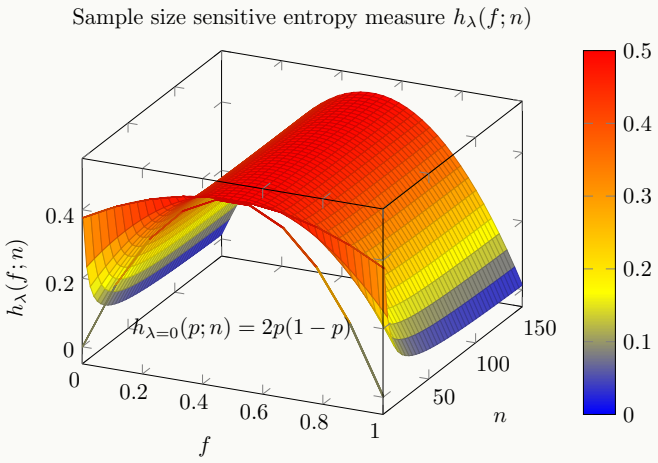
[1] Zighed, Auray, Duru (1992); Zighed, Rakotomalala (1996); Zighed, Rakotomalala (2000).

[2] $h_\lambda(f;n) = \sum_i \frac{nf_i+\lambda}{n+2\lambda}\left(1 - \frac{nf_i+\lambda}{n+2\lambda}\right)$ — used as the splitting criterion at each node, starting from the root.

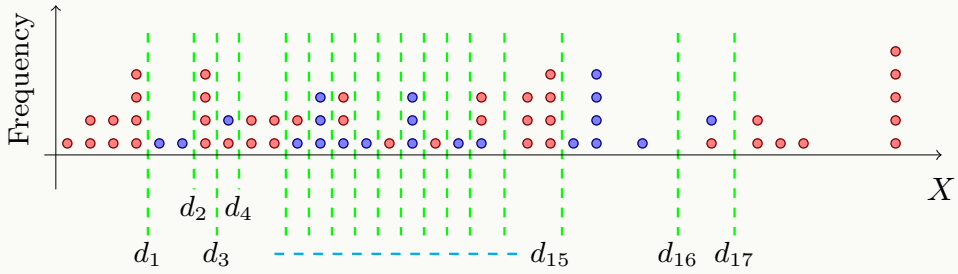
[3] Zighed, Rabaséda, Rakotomalala (1998), “FUSINTER: A method for discretization of continuous attributes”, IJUFKS, 6(3), pp. 307–326. 69+ citations.



Induction graph — lattice structure.



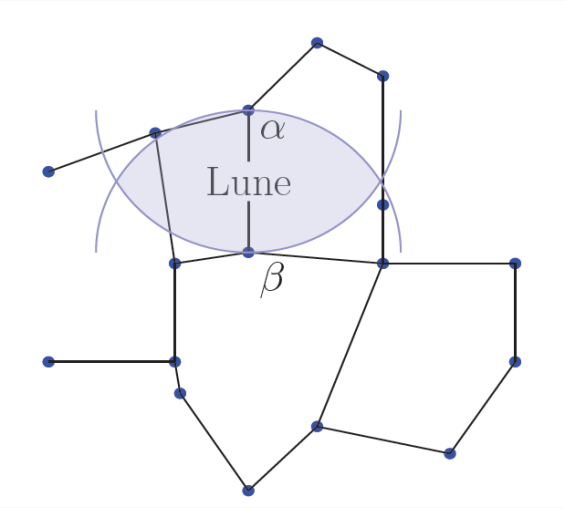
Sample-size-sensitive entropy measure $h_\lambda(f;n)$.



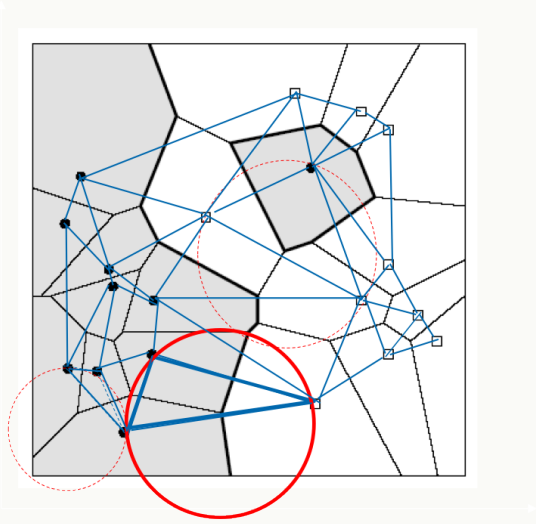
Discretisation of a continuous attribute: optimal placement of the thresholds $d_1, d_2, \ldots, d_{17}$ by FUSINTER.

Asymmetric entropy measures For supervised learning with imbalanced classes (medicine, marketing, etc.), I introduced new **asymmetric entropy** criteria generalising both classical entropy and sample-size-sensitive entropy[4].

[4] Marcellin, Zighed, Ritschard (2006); Zighed, Ritschard, Marcellin (2010).

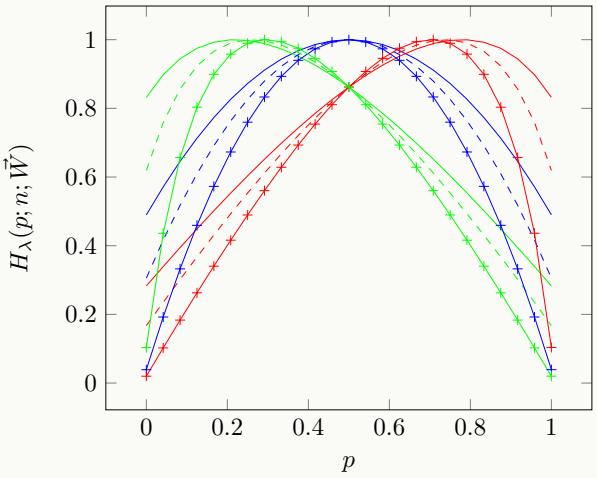


Relative neighbourhood graph and lens region.



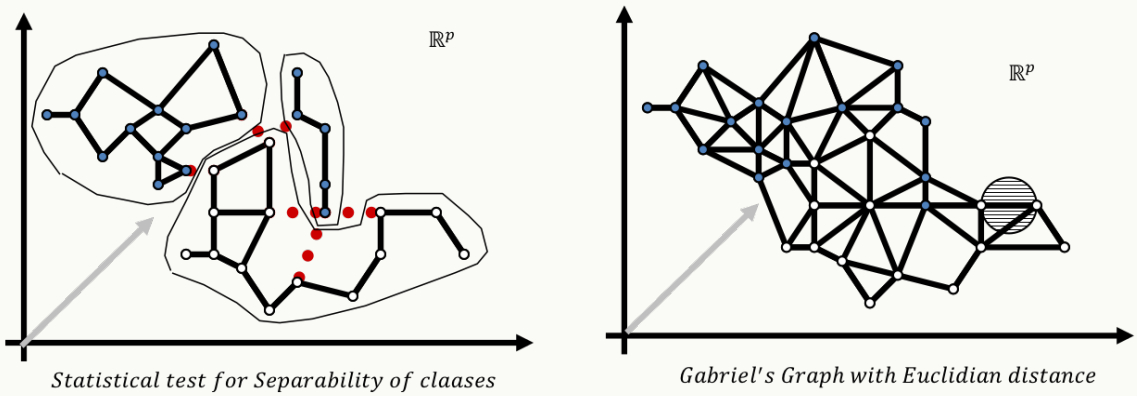
Voronoi diagram and Delaunay triangulation.

Asymmetric entropy measure sensitive to the sample size



Sample-size-sensitive asymmetric entropy measure $H_\lambda(p;n;\vec{W})$.

Class separability I designed a **statistical test** based on topological neighbourhoods to assess class learnability prior to the learning phase[5].



Statistical test of class separability (left); Gabriel graph and Euclidean distance (right).

[5] Zighed, Lallich, Muhlenbach (2002); Zighed, Lallich, Muhlenbach (2005); "Identifying and Handling Mislabelled Instances", JIIS, 22(1), pp. 89–109.

4.3 2011 – present: ISH, infonomics and the move towards digital humanities

When I took over the directorship of the **Institute of Human Sciences** in November 2010, I launched several interdisciplinary research programmes on the exploration of web content and open data sources. Massive data and **digital humanities** have become important issues for research in the humanities and social sciences. I obtained €300,000 of funding for the **Infonomics** project, which aimed to study the semantic structure of large textual datasets. Two platforms (PANELS and PAGES) were set up at the ISH thanks to this project.

This period also saw strong collaborations in **social network analysis** (with Hakim Hacid, Cécile Favre, Adrien Guille, etc.) leading in particular to the survey paper "Information diffusion in online social networks: a survey" (*SIGMOD Record*, 2013), today cited more than 845 times.

Word cloud of keywords extracted from the author's ∼200 publications; word size is proportional to frequency.

4.4 Software developed or used

SIPINA Open-source tool for generating decision trees and induction graphs, supported by my methodological contributions (sensitive entropy, fusion).

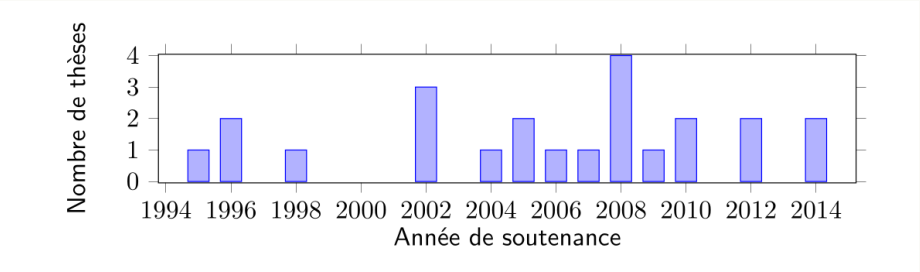
Ecosystem R, Weka, SPSS, Sipina (data mining); Matlab, Maple (mathematics).

4.5 Current research themes

- Analysis of high-dimensional data (*big data*).
- Machine learning; artificial intelligence.
- Topological learning; similarity measures.
- Mining and automatic analysis of textual corpora.
- Digital humanities; social sciences.
- Social networks and roles in online communities.
- Mediation between exact sciences and public debate (*cf.* book *La Laïcité dans le débat de la raison*, 2026).

5. Doctoral and HDR Supervision

I have supervised more than **20 PhD theses and Habilitations to Direct Research (HDR)**. The average duration of supervised theses is around **3.5 years**, and almost all were funded by a public or private scholarship. The number of supervised Master's theses is close to **80** (2–3 per year).



Distribution of supervised PhD theses by year of defence.

5.1 PhD and HDR theses (by year of defence)

- **1995** — *Samia Amghar* (PhD, Lyon 1). "Geometric approach to supervised numerical learning: a pretopological formalisation". *Current position*: secondary-school teacher.
- **1996** — *Marc Sebban* (PhD, Lyon 1). "Theoretical models in pattern recognition and hybrid architecture for perceptual machines". *Current position*: Professor, Université de Saint-Étienne.
- **1996** — *Sabine Loudcher* (PhD, Lyon 1). "Contributions to automatic knowledge extraction: application to clinical gait analysis". *Current position*: Professor, Université Lyon 2.
- **1998** — *Ricco Rakotomalala* (PhD, Lyon 1). "Induction graphs". *Current position*: Associate Professor, Université Lyon 2.
- **2001** — *Gérald Gavin* (PhD, Lyon 2). "Study of the probably-approximately-correct (PAC) learning model: application to ensemble methods". *Current position*: Associate Professor, Université Lyon 1.
- **2002** — *Stéphane Lallich* (HDR, Lyon 2). "Measurement and validation in knowledge extraction from data". *Current position*: Professor, Université Lyon 2.
- **2002** — *Nadir Belkhiter* (HDR, Lyon 2). "Human-machine communication and decomposition of binary relations with applications to various areas of computer science". *Current position*: Professor, Université Laval (Québec).
- **2002** — *Fabrice Muhlenbach* (PhD, Lyon 2). "Evaluating the quality of representation in data mining". *Current position*: Associate Professor, Université de Saint-Étienne.
- **2004** — *Jérémy Clech* (PhD, Lyon 2). "Methodological contribution to complex data mining". *Current position*: R&D engineer, private sector.
- **2005** — *Edwige Fangseu Badjio* (PhD, Lyon 2). "Visualisation and data mining". *Current position*: Professor, University of Cameroon.
- **2005** — *François Poulet* (HDR, Lyon 2). "Visualisation and data mining". *Current position*: Associate Professor, Université de Rennes.
- **2006** — *Walid Erray* (PhD, Lyon 2). "Extensions and new approaches in induction graphs. Application to large databases". *Current position*: R&D engineer, ArcelorMittal.
- **2006** — *Jérôme Darmont* (HDR, Lyon 2). "Optimisation and performance evaluation for the design and administration of complex data warehouses". *Current position*: Professor, Université Lyon 2.
- **2007** — *Philippe Lenca* (HDR, Lyon 2). "From data to decision: learning, validation and exploitation of rules". *Current position*: Professor, IMT Atlantique (Brest).
- **2008** — *Hakim Hacid* (PhD, Lyon 2). "A computing environment for intelligent querying and access to complex databases". *Current position*: R&D engineer, Alcatel-Lucent.
- **2008** — *Ahmad El Sayed* (PhD, Lyon 2). "Content-based information retrieval in multimedia databases". *Current position*: R&D engineer, private sector (United Arab Emirates).
- **2008** — *Julien Charbel* (PhD, Lyon 2 & Università del Piemonte Orientale, Italy, joint supervision). "Image, Statistical Learning Using Mixture Models". *Current position*: Associate Professor, Université de Beyrouth.
- **2008** — *Simon Marcellin* (PhD, Lyon 2). "Decision trees in asymmetric situations". *Current position*:

R&D engineer, private sector.

- **2009** — *Julien Thomas* (PhD, Lyon 2). "Supervised learning of imbalanced data using random forests". *Current position*: R&D engineer, private sector.
- **2010** — *Mavrikas Efthimios* (PhD, Lyon 2). "Between the words: methods for computational analysis of ideological discourse". *Current position*: R&D engineer, private sector (Greece).
- **2010** — *Qureshi Taimur* (PhD, Lyon 2). "Contribution to decision tree based learning". *Current position*: researcher, university in Pakistan.
- **2012** — *Vincent Pisetta* (PhD, Lyon 2). "Learning from random trees: new contributions". *Current position*: R&D engineer, private sector.
- **2012** — *Mathilde Forestier* (PhD, Lyon 2). "Automatic extraction of enriched social networks for the analysis of social roles in online discussions". *Current position*: postdoctoral researcher, Université de Montpellier.
- **2014** — *Dialla Azzedine* (PhD, Lyon 2). "A contribution to topological learning and its application to social networks". *Current position*: engineer at Microsoft, Seattle (USA).
- **2014** — *Adrien Guille* (PhD, Lyon 2). "Automatic analysis of tweets". *Current position*: Associate Professor, IUT Lumière Lyon.
- **2016** — *Fatima Zohra Aazi* (joint supervision Lyon 2 & Université Hassan 1, Settat, Morocco). "Supervised learning — topological learning".
- **2018** — *Hussein Al-Natsheh* (joint supervision Lyon 2 & Université de Saint-Étienne). "Semantic similarity measures between sentences".

5.2 Temporal distribution

The supervision spans more than **twenty years** (1994 – 2018), with peaks around 2002, 2008 and 2014. The variety of career paths (academic, private R&D, international) reflects the generally applied orientation of my work.

6. Teaching

6.1 Themes and audiences

Throughout my career I have taught at all university levels (from first-year undergraduate to graduate school), with a focus on postgraduate (Master's and beyond) levels from 1991 onwards. My teaching covers **algorithmics** and **programming**, **statistical data analysis**, **databases** and **information systems engineering**, and above all my speciality: **machine learning**, **data mining** and **cluster analysis**.

6.2 Programme leadership

2010 – 2016 **Erasmus Mundus DMKM Master's** — Data Mining and Knowledge Management. Co-founder and main coordinator. Consortium of six European universities (Lyon 2, Paris 6, Polytech'Nantes, Catalonia, Piemonte Orientale, Bucharest). English-language curriculum, multi-campus delivery (in-person + videoconferencing + recorded online courses). Received nearly a thousand applications per year from over 150 countries. Programme closed in 2016.

— See also the European Commission funding in Section 3.3.

1999 – 2011 **ECD Master's** — Extraction des Connaissances à partir des Données (Knowledge Discovery in Databases). Co-founder and head. Joint accreditation with Lyon 2, Paris 11 Orsay, Polytech'Nantes. Distance courses for the founding sites and for students in Cantho (Vietnam) and Tunis (Tunisia). Still running in evolved form at ICOM Lyon 2.

1991 – 1998 **DESS OPSIE** — Organisation et Protection des Systèmes d'Information dans les Entreprises (Organisation and Protection of Corporate Information Systems). Founder and main coordinator. Cross-disciplinary Master's in law, management and computer science within the Lyon 2 Faculty of Law and Political Science. Still running.

1993 – ? **DESS IIDEE** — Ingénierie Informatique pour la Décision et l'Évaluation Économique (Computer Engineering for Decision-making and Economic Evaluation). Founder. Balanced combination of computer science, statistics and economics. Later transformed into a professional Master's.

6.3 Teaching phases (overview)

1984 – 1987 MASS programme, Université Claude Bernard Lyon 1.
Algorithmics, programming, data analysis. Concurrent design and delivery of a one-week CNRS continuing education course on multidimensional analysis methods.

1987 – 1991 Faculty of Law, Lyon 2, AES programme.
Creation and coordination of the quantitative subjects (statistics, computer science). Creation in 1989 / 1990 of the DESS OPSIE.

1991 – 2000 Faculty of Economic Sciences and Management, Lyon 2.
Scaling up of computer-science teaching, structuring of postgraduate programmes (DESS SISE, DESS IIDEE), creation of the DEA in Knowledge Discovery from Data (1999), coordination of the junior team and subsequent official labelling of the ERIC research lab.

2000 – 2016 Master's-level computer-science teaching at ICOM.
Courses in machine learning, data mining, cluster analysis, preference aggregation, multicriteria analysis, linear algebra, relational databases. Founding and leadership of the Erasmus Mundus DMKM Master's from 2010, taught in English.

2020 – present Occasional Master's-level teaching, doctoral coaching and PhD committee work. Involvement in the design of the Parene educational platform (PARENE SAS, co-founded in 2021).

6.4 Visiting professor

1998 Glendon College, York University, Toronto (Canada), 6 months.

1998 Department of Computer Science, Université Laval, Québec (Canada), 6 months.

2005 – 2007 Department of Social Sciences, University of Geneva (Switzerland) — 3 h / week.

2000 – 2005 Faculty of Sciences, Université de Tunis (Tunisia) — one week per year.

2013 – 2015 Faculty of Sciences, University of Buenos Aires (Argentina) — two weeks per year.

7. Academic Service

7.1 Programme committees

Programme committee member of the following conferences (selection, 2000 – 2016):

- Flagship machine learning and data mining conferences — **ECML / PKDD** (2000–2016); **ECAI-AIL** (Active and Incremental Learning, 2012); **KDIR** (2014–2016); **NFMCP** (2012); **MOD** (Machine Learning, Optimization and Big Data, 2015–2016); **FAB** (2015); **GCAI** (2015); **IS** (2015); **KNMO** (2006).
- French-speaking and statistical conferences — **EGC** (Extraction et Gestion des Connaissances, 2000–2016); **SFC-CLADAG** (2008); **CAP** (Apprentissage — French Machine Learning Conference, 2009–2016); **COMPSTAT** (2006–2012); **ASMDA** (2005–2009); **ASI** (Implicative Statistical Analysis, 2007).
- Database and data warehouse conferences — **DaWaK** (2006–2010); **EDA** (2007–2008); **FQAS** (2004); **DTA** (2009–2011); **ESWC** (2008–2010).
- Artificial intelligence conferences — **ICTAI** (IEEE, 2011); **ICNC** (2008); **IEA-AIE** (2011); **ESAN** (European Symposium on ANN, 2014–2016); **IKM** (Interesting Knowledge Mining, 2009–2010); **MIK** (2009).
- Digital humanities and knowledge bases — **ICDSD** (Distributed Systems and Decision, 2012); **ADMA** (Advanced Data, 2007); **MDM-KDD** (Multimedia Data Mining @ ACM SIGKDD, 2004); **H2PTM** (Hypertexts and Hypermedia, 2015); **INCoS** (2011); **ISMIS** (2002); **JFRB** (Bayesian Networks, 2008).

- Applied and complex-systems conferences — **WCCS** (World Conference on Complex Systems, 2014); **BDMV** (Big Data Mining and Visualisation, 2014); **BRACIS** (Brazilian Conference on Intelligent Systems, 2013–2016); **NFMCP** (Pacific-Asia, 2004–2010); **NFMCP** (Brazilian Symposium on ANN, 2010–2012); **DMA** (2010); **DMLD/DMoLD** (2012–2013); **FedCSIS** (2011–2015); **FDC** (2010–2016); **GrC** (Granular Computing IEEE, 2013–2014); **MSDM** (Multi-agent Sequential Decision-Making, 2009); **SFC** (Société Francophone de Classification, 1998).

7.2 Conference chairing and co-chairing

2012 **DS-ALT** — 23rd Int. Conf. on Algorithmic Learning Theory & 15th Int. Conf. on Discovery Science. Lyon, France.

2011 **GT-FDC** — EGC Working Group on Complex Data Mining. Lyon, France.

2010 **TopLearn** — Topological Learning, special session at COMPSTAT. Paris, France.

2009 **TopLearn** — international workshop at ISMIS. Prague, Czech Republic.

2009 **TopLearn** — topological learning workshop at EGC. Strasbourg, France.

2005 – 2008 **MCD** — Mining Complex Data, international workshops co-located with IEEE ICDM (Houston, Hong Kong, Warsaw, Pisa).

2006 **RIAS** — inter-association workshop on classification. Lyon, France.

2003 **SFdS** — annual congress of the Société Française de Statistique (French Statistical Society). Lyon, France.

2002 **EGC** — International French-speaking conference on Knowledge Extraction and Management. Montpellier, France.

2002 **ISMIS** — Symposium on Methodology for Intelligent Systems. Lyon, France.

2000 **PKDD** — International Conference. Lyon, France.

1997 **SFC** — Société Française de Classification meetings. Lyon, France.

7.3 Invited keynotes

2015 CS-DM (Computational Statistics and Data Mining for Knowledge Discovery), Rio de Janeiro, Brazil.

2015 SUBA15 (Data Mining-based approach for authors' disambiguation in large citation networks), Buenos Aires, Argentina.

2015 ECI15 (Semantic similarity measures overview and applications), Universidad de Buenos Aires.

2014 ISKO-M (International Society for Knowledge Organization), Algiers, Algeria.

2014 ICSA-K (ICSA and KISS Applied Statistics Symposium), Portland, USA.

2014 JOBD (Jornadas Open Big Data), Buenos Aires, Argentina.

2014 UFII (Doctoral school seminar, Università Federico II), Naples, Italy.

2013 JDM201 (Jornadas Data Mining), Buenos Aires, Argentina.

2013 SIA7 (Implicative Statistical Analysis), São Paulo, Brazil.

2011 JOINT (Taipei Int. Statistical Symposium & 7th Conf. of the Asian Regional Section of IASC), Taipei, Taiwan.

2010 CIRO (International Conference on Operational Research), Marrakech, Morocco.

2009 Data Mining — Franco-Brazilian Workshop on Data Mining, Recife, Brazil.

2007 SFC, Caserta, Italy.

2006 GfKL — Conference of the German Classification Society, Berlin, Germany.

2006 KNMO (Knowledge Extraction and Modeling), Capri, Italy.

2002 SFC, Neuchâtel, Switzerland.

2000 SFC, Pointe-à-Pitre, France.

7.4 Reviewer for journals

- Computer Methods and Programs in Biomedicine (*Associate Editor*).
- IEEE Transactions on Systems, Man and Cybernetics: Systems (*Associate Editor*).
- Complex Data Mining Using Granular Computing Methods (*Editorial Board*).
- International Journal of Social Network Mining (IJSNM, *Editorial Board*).
- Computational Statistics — *Guest Editor*.
- Machine Learning — *Guest Editor*.
- Computational Intelligence — *Guest Editor*.
- Journal of Intelligent Information Systems (JIIS) — *Guest Editor*.
- Arabian Journal for Science and Engineering (AJSE) — *Guest Editor*.
- International Journal of Machine Learning, Pattern Recognition and Data Mining (MLPRDM) — *Associate Editor*.
- Ecological Informatics, Elsevier Editorial System (EES) — *Associate Editor*.
- Pattern Recognition Letters (PRL) — *Guest Editor*.

7.5 Grant reviewing

Since 2012 Ministero dell'Istruzione, dell'Università e della Ricerca, Italy.

Since 2011 Fonds de la Recherche Scientifique (FNRS), Belgium.

Since 2010 Czech Science Foundation (Czech Republic).

2009 AERES — French Agency for Evaluation of Universities and Research Institutions.

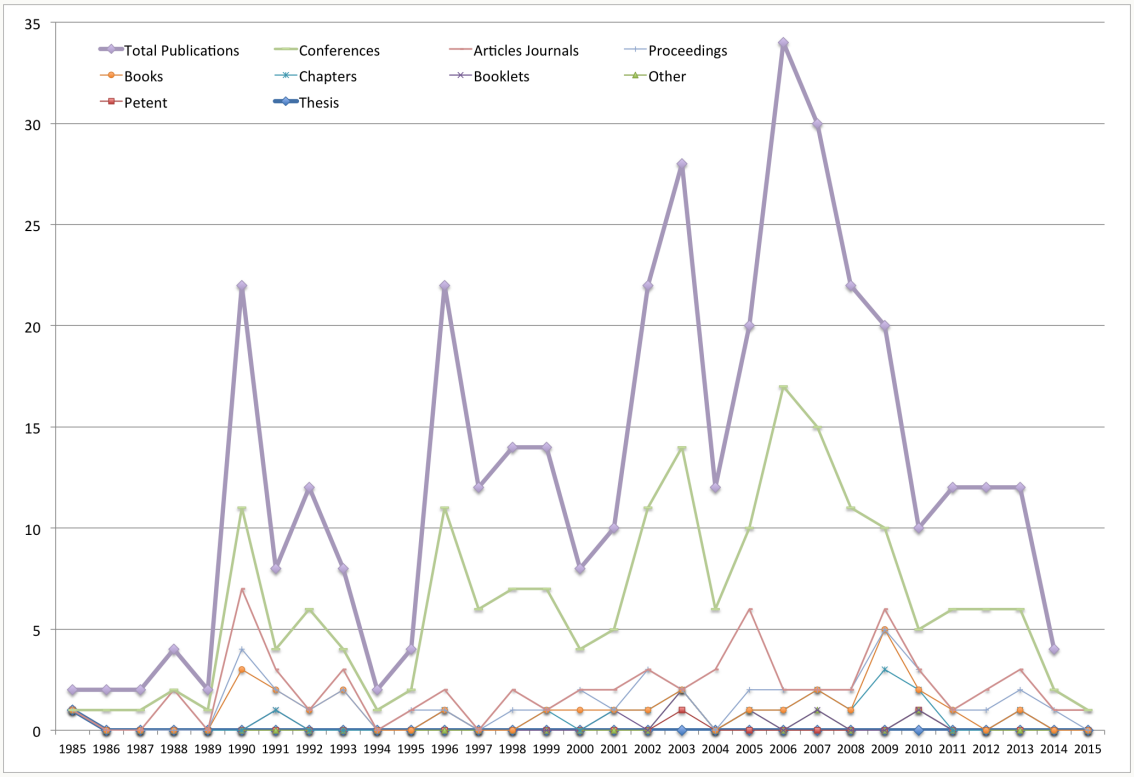
2006 & 2016 ANR — French National Research Agency.

2005 ANVAR-OSEO (Bpifrance) — public investment fund.

8. Publications

The *full and continuously updated* publication list is available on www.zighed.com (Publications section), as well as in the DBLP, HAL and ORCID profiles.

In total, about **200 publications** from 1984 to the present: 7 books, 22 book chapters, 32 international peer-reviewed journal papers, 72 international conference papers and 9 edited proceedings. The multi-source consolidation (DBLP / HAL / OpenAlex) maintained on the website is the **authoritative** reference and ensures the consistency of citations.



Number of publications per year and per outlet type (1984 – 2018).

8.1 Most recent book

2026 Zighed, D. A.
La Laïcité dans le débat de la raison — Régulation du pluralisme dans la société moderne [Secularism in the Debate of Reason — Regulating Pluralism in Modern Society].
Companion platform: laiciscope.org.

8.2 Most cited papers (top 10, source: OpenAlex)

- Guille, A.; Hacid, H.; Favre, C.; **Zighed, D. A.** (2013). "Information diffusion in online social networks: a survey". *SIGMOD Record* 42(2), pp. 17 – 28. **845 cit.**
- Muhlenbach, F.; Lallich, S.; **Zighed, D. A.** (2004). "Identifying and Handling Mislabelled Instances". *J. Intell. Inf. Syst.* 22(1), pp. 89 – 109. **136 cit.**
- **Zighed, D. A.**; Rabaséda, S.; Rakotomalala, R. (1998). "FUSINTER: A Method for Discretization of Continuous Attributes". *Int. Journal of Uncertainty, Fuzziness and Knowledge-Based Systems* 6(3), pp. 307 – 326. **69 cit.**
- **Zighed, D. A.**; Komorowski, J.; Zytkow, J. M. (eds.) (2000). *Principles of Data Mining and Knowledge Discovery, PKDD 2000*. Springer, LNAI 1910. **60 cit.**
- Ras, Z. W.; Tsumoto, S.; **Zighed, D. A.** (eds.) (2008). *Mining Complex Data, ECML / PKDD 2007 Third International Workshop*. Springer. **43 cit.**
- Forestier, M.; Stavrianou, A.; Velcin, J.; **Zighed, D. A.** (2012). "Roles in social networks: methodologies and research issues". *Web Intelligence and Agent Systems* 10(1), pp. 117 – 133. **42 cit.**
- **Zighed, D. A.**; Lallich, S.; Muhlenbach, F. (2002). "Separability Index in Supervised Learning". Proc. *Principles of Data Mining and Knowledge Discovery* (PKDD), Helsinki, pp. 475 – 487. **36 cit.**
- Berka, P.; Rauch, J.; **Zighed, D. A.** (eds.) (2009). *Data Mining and Medical Knowledge Management: Cases and Applications*. IGI Global. **28 cit.**
- Lallich, S.; Muhlenbach, F.; **Zighed, D. A.** (2002). "Improving Classification by Removing or Relabeling Mislabeled Instances". Proc. ISMIS 2002, pp. 5 – 15. **26 cit.**
- Marcellin, S.; **Zighed, D. A.**; Ritschard, G. (2006). "An asymmetric entropy measure for decision trees". Proc. *Information Processing and Management of Uncertainty* (IPMU), Paris, pp. 1292 – 1299. **23 cit.**

8.3 Selected edited books

- Guillet, F.; Ritschard, G.; **Zighed, D. A.**; Briand, H. (eds.) (2010). *Advances in Knowledge Discovery and Management*, Studies in Computational Intelligence, Springer.
- **Zighed, D. A.**; Tsumoto, S.; Ras, Z.; Hacid, H. (eds.) (2008). *Mining Complex Data*. Springer.
- Brissaud, M.; Lamure, M.; Milan, J.-J.; Auray, J.-P.; Nicoloyannis, N.; Duru, G.; Terrenoire, M.; Tounissoux, D.; **Zighed, D. A.**; Bonnevay, S.; Le, T. V.; Bui, M.; Ben Amor, S.; Levorato, V.; Kabachi, N. (2011). *Basics of Pretopology*. Hermann.
- Brissaud, M.; Forsé, M.; Grafmeyer, Y.; **Zighed, D. A.** (1990). *La modélisation: confluent des sciences* [Modelling: where the sciences converge]. CNRS Éditions.
- **Zighed, D. A.**; Rakotomalala, R. (2000). *Graphes d'induction — apprentissage et data mining* [Induction Graphs — Learning and Data Mining]. Hermes Science Publications.

8.4 Selected foundational papers

- Amir, S.; Tanasescu, A.; **Zighed, D. A.** (2017). "Sentence similarity based on semantic kernels for intelligent text retrieval". *J. Intell. Inf. Syst.* 48(3), pp. 675 – 689.
- Rico, F.; Muhlenbach, F.; **Zighed, D. A.**; Lallich, S. (2015). "Comparison of two topological approaches for dealing with noisy labeling". *Neurocomputing* 160, pp. 3 – 17.
- Scuturici, M.; Clech, J.; Scuturici, V. M.; **Zighed, D. A.** (2005). "Topological representation model for image database query". *J. Exp. Theor. Artif. Intell.* 17(1 – 2), pp. 145 – 160.
- **Zighed, D. A.**; Ritschard, G.; Erray, W.; Scuturici, V. M. (2005). "Decision trees with optimal joint partitioning". *Int. J. Intell. Syst.* 20(7), pp. 693 – 718.
- Ritschard, G.; **Zighed, D. A.**; Nicoloyannis, N. (2001). "Maximisation de l'association par regroupement de lignes ou colonnes d'un tableau croisé" [Association maximisation by row or column grouping in a cross-tabulation]. *Revue Mathématiques Sciences Humaines* 39.154/155, pp. 81 – 97.

Note. The full list (about 200 references), automatically updated from DBLP, HAL and OpenAlex, can be browsed on www.zighed.com with filters and sorting (by year, type, citations).

9. Additional Information

9.1 Private consulting and expertise

Consulting assignments in digital strategy, data mining, *big data* and artificial intelligence, for: Lundbeck (Paris); L'Oréal (Paris); Altares (Paris); Novartis (Basel, Switzerland); Sanofi Pasteur (Lyon).

The detailed content of these assignments remains confidential.

9.2 Interests

Science and research Analysis of high-dimensional data (*big data*); data science; complex data mining; machine learning; artificial intelligence; automatic analysis of textual corpora; infonomics; digital humanities; social networks.

Development and entrepreneurship In training, research and socio-economic valorisation: founding of several companies (including PARENE SAS, 2021), fundraising, board membership.

Culture and leisure Classical music and opera; walking; travel; history and literature.

Intellectual commitments Reflection on the relations between scientific knowledge, reason and public debate; mediation between exact sciences and humanities (*cf.* book and site laïciScope).

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